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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,480	05/08/2004	Timothy Kingston	07589.0164.PCUS00	1683

28694 7590 03/24/2006
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EXAMINER

HO, HA DINH

ART UNIT PAPER NUMBER

3681

DATE MAILED: 03/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/709,480	KINGSTON ET AL.	
	Examiner	Art Unit	
	Ha D. Ho	3681	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-12 is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 01/20/06 has been entered.

2. This Office Action is responsive to Applicant's Amendment filed on 01/20/06. Claims 1-8 and 10-12 are currently pending.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office Action.

4. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jirousek et al. (US 4,317,498) in view of Kingston (US 6,090,006) and Forster (US 5,813,938).

Jirousek et al teach an arrangement (see Fig. 1) for driving a wheel of a vehicle, said arrangement comprising: a planetary gear transmission 74 including a sun gear 80 connected to a driving axle 30, a planet carrier 82 on which at least one planet gear 78 is arranged in engagement with the sun gear, and a ring gear 76 arranged around and in engagement with said planet gear; said ring gear and an outer, static part (16, 18) are of one piece construction and form an annular member, a braking device 46 and a wheel hub 86, said hub being fixedly connected to the planet carrier, and a bearing arrangement (94) provided between races in the hub and the annular member, wherein the race provided in the hub 86 is located radially outside the race provided in the annular member (76, 16, 18) and longitudinally exterior from the brake assembly towards the wheel hub.

Jirousek et al show the braking device 46 being arranged to brake the sun gear 80 instead of the planet carrier 82 relative to the static part.

Kingston teaches an arrangement (see Fig. 1) for driving a wheel of a vehicle, said arrangement comprising: a planetary gear transmission including a sun gear 10 connected to a driving axle 6, a planet carrier 2 on which at least one planet gear 4 is arranged in engagement with the sun gear, and a ring gear 30 arranged around and in engagement with said planet gear; said ring gear and an outer, static part 28 form an annular member, a braking device 34 and a wheel hub 16, wherein the braking device 34 is arranged to brake the planet carrier 2 relative to the static part 28 that is arranged outside the planet carrier in the radial direction.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the braking device of Jirousek et al in view of Kingston such that the braking device is arranged to brake the planet carrier relative to the static part in order to provide quicker braking action on the wheel hub relative to the static part since the wheel hub is firmly connected to the carrier.

Jirousek et al do not show the bearing arrangement (94) having spherical balls provided between the races in the hub and the annular member. Note that Jirousek et al used the square symbol to designate a bearing. It means that Jirousek et al leave it up to one having ordinary skill in the art to come up with any type of bearing to use in this wheel drive assembly.

The bearing having spherical balls provided between the races is old and well known in the art. For example, Forster shows a wheel hub arrangement having spherical ball bearings (12', 13') (see Fig. 3 and col. 3, lines 17-19).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide spherical balls between the races in the hub and the annular member of Jirousek et

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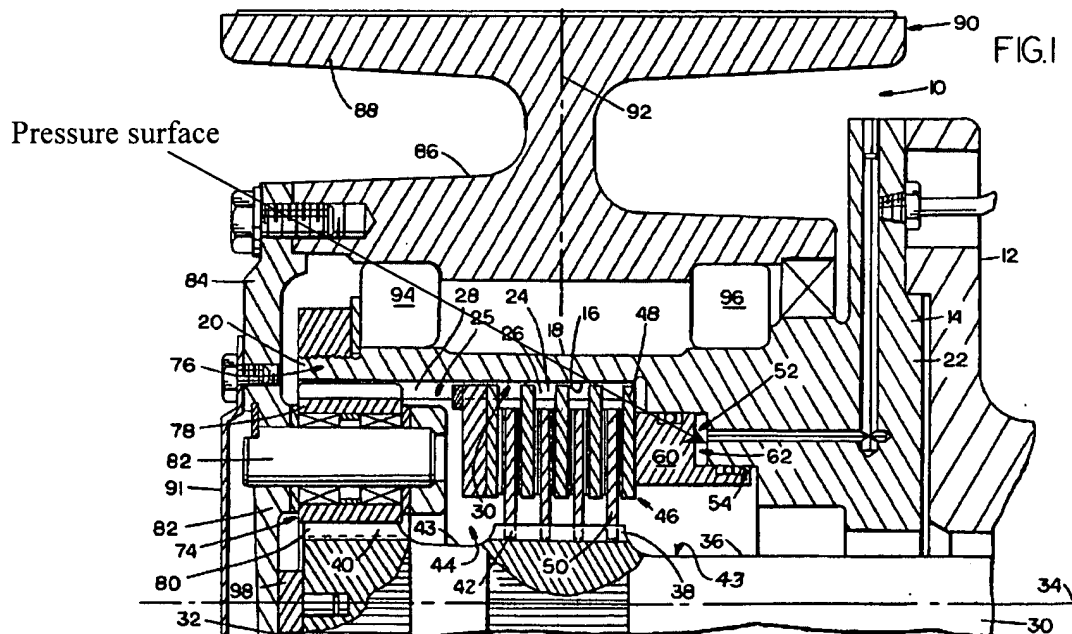
al in view of Forster since the Examiner takes an Official Notice that a spherical ball bearing is old and well known in the art. Moreover, the spherical ball bearing has more degrees of freedom with respect to any other type of bearings, such as roller bearings.

Regarding claim 2, the modified arrangement would have the braking device and the hub being arranged on the planet carrier on different sides of the planet gear.

Regarding claim 3, wherein the hub 86 is mounted against the annular member outside in the radial direction of that portion of the annular member which forms the ring gear 76, and also against said portion.

Regarding claim 4, Jirousek et al show the bearing arrangement including two bearings. The modified wheel hub arrangement would have two rows of balls arranged at a mutual spacing in the axial direction of the driving axle.

Regarding claim 5, wherein the annular member forms a pressure surface (see the Fig. below) for said braking device.



Regarding claim 6, wherein the outer, static part (16, 18) forms a portion of a brake housing for the braking device.

Regarding claim 7, wherein the annular member is connected firmly to an axle case (see col. 2, lines 22-25).

Regarding claim 8, the modified arrangement would have first brake disks 50 connected to the carrier, second brake disks 48 connected to the static part, and a pressure applicator 60 for pressing the first and second brake disks together.

Allowable Subject Matter

5. Claims 10-12 are allowed.

Response to Arguments

6. Applicant's arguments filed 01/20/06 have been fully considered but they are not persuasive.

Applicant argues that Forster does not show ball bearings (page 5, the second to last line).

Examiner disagrees because Forster clearly shows ball bearings 12' and 13' in Figure 3 and also Forster clearly states that "*ball bearings 12' and 13' may also be used in place of tapered roller bearings 12 and 13*" (see col. 3, lines 17-18). Note that using a ball bearing as taught by Forster for the bearing 94 in Jirousek et al, the claimed features are shown.

Further, the additional feature of locating the claimed bearing race "longitudinally exterior from the brake assembly towards the wheel hub" is shown by Jirousek et al, i.e., the outer bearing race of the bearing 94 provided in the hub 86 is located longitudinally exterior from the brake assembly towards the wheel hub.

Communication

7. Submission of your response by facsimile transmission is encouraged. The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300. Recognizing the fact that reducing cycle time in the processing and examination of patent

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applications will effectively increase a patent's term, it is to your benefit to submit responses by facsimile transmission whenever permissible. Such submission will place the response directly in our examining group's hands and will eliminate Post Office processing and delivery time as well as the PTO's mail room processing and delivery time. For a complete list of correspondence not permitted by facsimile transmission, see M.P.E.P. 502.01. In general, most responses and/or amendments not requiring a fee, as well as those requiring a fee but charging such fee to a deposit account, can be submitted by facsimile transmission. Responses requiring a fee which applicant is paying by check should not be submitting by facsimile transmission separately from the check. Responses submitted by facsimile transmission should include a Certificate of Transmission (M.P.E.P. 512). The following is an example of the format the certification might take:

I hereby certify that this correspondence is being facsimile transmitted to
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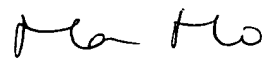
(Signature)

If your response is submitted by facsimile transmission, you are hereby reminded that the original should be retained as evidence of authenticity (37 CFR 1.4 and M.P.E.P. 502.02). Please do not separately mail the original or another copy unless required by the Patent and Trademark Office. Submission of the original response or a follow-up copy of the response after your response has been transmitted by facsimile will only cause further unnecessary delays in the processing of your application; duplicate responses where fees are charged to a deposit account may result in those fees being charged twice.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ha D. Ho whose telephone number is **571-272-7091**. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor can be reached on **571-272-7095**.

8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HDH
(571) 272-7091
March 22, 2006


HA HO
PRIMARY EXAMINER
Art Unit 3681 3/22/06